

Work Order ID 70469

Thursday, June 09, 2011 7:58:21 AM



Page 1

Item ID: D206-642-541

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 6/9/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 6/20/2011 Req'd Qty: 1.00

Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3274	D								
IIN-D206-642	Rev M								

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

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Item Name: Replacement Skidtube

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

110

0.00



Skidtubes

Skidtubes

Memo

0.00

****VERIFY AND INSPECT THE MATERIAL PRIOR TO USE****

1- Bend FWD end of tube using bend prog D3274 FWD and foil 10 as per dwg D3274, cut fwd end of tube with saw table setup D3274.

2- remove fwd indexing ridge as per dwg D3274. Prepare for welding

3- weld fwd cap as per dwg D3274 and QSI004

AR Aluminum Rod Batch: M112860

4- grind fwd cap weld on top surface only

5- Cut AFT end of tube at 170.9" as per dwg D3274 and deburr end.

6-Drill Aft cap pilot hole using DT8025

7 -Cleco DT8025 in position and install pilot hole drill Jig DT8742A,B,C,D. -
Drill 3/16" pilot holes as per Dwg D3274

8 -Remove inner indexing ridge on aft end of skidtube as per Dwg D3274 scribe
batch #

9 -Open aft end cap holes to Ø0.208" as per Dwg D3274. Deburr aft end.

DP 11-7-29
BE 11/08/04

BE 11/08/08

11/08/08

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific requirements of the task.

2. The second step is to gather relevant information and data. This can involve research, consultation with experts, or collecting data from various sources.

3. The third step is to analyze the information and data collected. This involves identifying patterns, trends, and relationships that can help in understanding the problem.

4. The fourth step is to develop a solution or answer. This involves applying the knowledge and skills gained from the previous steps to create a response that addresses the problem.

5. The fifth step is to evaluate the solution or answer. This involves checking the results against the original problem and requirements to ensure that the solution is effective and accurate.

6. The sixth step is to communicate the solution or answer. This involves presenting the findings in a clear and concise manner, using appropriate language and format.

7. The seventh step is to reflect on the process. This involves thinking about what was learned from the experience and how it can be applied to future problems.

8. The eighth step is to seek feedback. This involves asking others for their thoughts and suggestions on the solution and the process used to develop it.

9. The ninth step is to implement the solution. This involves putting the solution into practice and monitoring its effectiveness over time.

10. The tenth step is to review the results. This involves evaluating the outcomes of the implementation and making any necessary adjustments to improve the solution.

[illegible]

Customer:

[illegible][illegible]

**Insp.
Stamp**

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Hand Finishing

At 11.08.10

1 0

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 70469

Thursday, June 09, 2011 7:58:21 AM



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Item ID: D206-642-541

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 6/9/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 6/20/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 	QC3- Inspect Part Finish	0.00							
QC Quality Control	Memo	0.00				1	0		8/6/08/11
150 	Skidtubes	0.00							
Skidtubes	Memo	0.00							
Skidtubes	1-Open Ø0.313" and 0.375" crossbolt spacer holes as per Dwg D3274								
	2-Deburr crossbolt spacer holes as per Dwg D3274 and blow out chips from inside the tube								
	3-Bond web in place as per Dwg D3274 & QSI 015. A/R <input type="checkbox"/> Sikaflex-291 <input checked="" type="checkbox"/> M117516 <input type="checkbox"/> Sikaflex expire date: <input type="checkbox"/> 12-1-15 <input type="checkbox"/> Start: <input type="checkbox"/> 11-8-16 Time: <input type="checkbox"/> 11:10 AM Finish: <input type="checkbox"/> 11-08-17 Time: <input type="checkbox"/> 7:30 (Adhere for 12 hours)								

3 DL 11/08/11

DD 11-8-16

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Revision ID:

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Item Name: Replacement Skidtube

Start Date: 6/9/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 6/20/2011 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160 	QC5- Inspect part completeness to step on W/O	0.00				1	0	BE 11/08/17	
QC Quality Control	Memo	0.00							
170 	Skidtubes	0.00							
Skidtubes	Memo	0.00							
Skidtubes	1-Bend AFT end of tube using bend prog. D3274 AFT as per dwg D3274. Install drop pins in crossbolt spacer holes to maintain web position.								BE 11/08/17
	2- DRILL PILOT HOLES FOR WEARPLATES USING D3274-1T2 OPEN HOLES TO .297" . Deburr								Pro -
	3-DRILL TOE PIN HOLE .640" DIA AS PER DWG USING DT8935 FWD END OF TUBE DEBURR INSIDE OF HOLE AS NECESSARY (DO NOT ENLARGE HOLES) REMOVE ANY FOREIGN OBJECTS INSIDE OF TUBES								BE 11/08/18
	4- Countersink crossbolt spacer holes as per Dwg D3274								
	5- prepare for welding								

W/O: 70469		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D206-642-541 PAR #: N/A Fault Category: Landing Gear NCR: Yes No DQA: 1 Date: 11-08-23
 Resolution: Scrap Disposition: Scrap QA: N/C Closed Date: 11/8/23

NCR: 70469		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
11/08/18	#170.3	when Drilling the . ϕ .640" tow Ring hole the operator noticed he had drilled one side in the wrong location. The tow Ring holes on one side is @ the 24th hole from the aft. that hole location is for a D3275-1 x-bolt spacer R.C. Lack of Attention by employee when Drilling hole. (employee still learning the Process / Job).	11/08/18 25042	Flot hole is critical. Putting in a plug would leave too large of a heat affect zone. <u>Scrap</u> 11.08.18	11/08/18	11-8-18	11/08/18 25042	W/08/18

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180 	QC5- Inspect part completeness to step on W/O	0.00							
QC Quality Control	Memo	0.00							
190 	Skidtubes	0.00							
Skidtubes	Memo	0.00							
Skidtubes	1-Insert D2649 & D3275-1 crossbolt spacers. Weld as per QSI 004 and Dwg D3274. Remember to back drill each hole before welding the other side. Use aluminum rod A/R <input type="checkbox"/> Aluminum Rod <input type="checkbox"/>								
	3-Grind cross bolt welds flush as per Dwg D3274.								
	4-Counterbore 5/16" x 0.750" deep as per Dwg D3274 and deburr.								

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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
200	QC5- Inspect part completeness to step on W/O	0.00							
QC	Memo	0.00							
Quality Control									
210	QC10- Inspect visual per QSI004- ground welds	0.00							
QC	Memo	0.00							
Quality Control									
220	Pressure Wash per QSI005 4.3	0.00							
HandFinish	Memo	0.00							
Hand Finishing	Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch								

W/O:		WORK ORDER CHANGES					
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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
230 	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
Powdercoat	Memo	0.00							
Powder Coating	START TIME: _____ OVEN TEMPERATURE: _____ FINISH TIME: _____								
240 	QC3- Inspect Part Finish	0.00							
QC	Memo	0.00							
Quality Control									
250 	HandFinishing	0.00							
HandFinish	Memo	0.00							
Hand Finishing	1-Install Nut Plate as per Dwg D3274. Apply LPS-3 to Nut Plate and rivets. A/R <input type="checkbox"/> N/A <input type="checkbox"/> LPS-3 <input type="checkbox"/> _____ 2-Install inserts as per Dwg D3274. Use a drop of Sikaflex inside insert holes a A/R <input type="checkbox"/> Sikaflex-291 <input type="checkbox"/> _____ <input type="checkbox"/> <input type="checkbox"/> Sikaflex expire date: <input type="checkbox"/> _____								

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 70469

Page 9

Thursday, June 09, 2011 7:58:21 AM

Item ID: D206-642-541

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 6/9/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 6/20/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start



QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
260 	QC5- Inspect part completeness to step on W/O	0.00							
QC Quality Control	Memo Inspect Nut Plate & Inserts	0.00							
270 	HAND FINISHING RESOURCE #1	0.00							
HandFinish Hand Finishing	Memo 1-Install wearpads & gaskets as per Dwg D3274. 2-Install ring as per Dwg D3274 A/R <input type="checkbox"/> Sikaflex-291 <input type="checkbox"/> _____ <input type="checkbox"/> Sikaflex expire date: <input type="checkbox"/> _____ 3-Inspect for foreign objects as per QSI 024 4-Spray inside of tube on both sides of web with LPS-3 A/R LPS-3 Batch: _____ 5-Install Aft Cap and seal with Sikaflex. Clean excess adhesive. A/R <input type="checkbox"/> Sikaflex-291 <input type="checkbox"/> _____ <input type="checkbox"/> Sikaflex expire date: <input type="checkbox"/> _____	0.00							

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 70469

Thursday, June 09, 2011 7:58:21 AM



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Item ID: D206-642-541

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 6/9/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 6/20/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start



QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
280 QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00				_____	_____	_____	_____
290 Packaging Packaging	Identify as per dwg & Stock Location: _____ Memo	0.00 0.00				_____	_____	_____	_____
300 QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.00				_____	_____	_____	_____

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Thursday, June 09, 2011 7:58:31 AM

Page 1

Work Order ID: 70469

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube




Start Date: 6/9/2011

Required Date: 6/20/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:B 05.09.23 Revised per D206-642 Rev. J KJ/JLM
 IPP Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM
 IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-I DD
 IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC
 IPP Rev:F 08-06-02 add comment DD verified by:EC
 IPP Rev:G 08-10-09 revise details DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2600-1-190  Extrusion Round 3" 206		Manufactured	No			110	Each	34.4000	1	1			
				<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>							
				HALL	34.4								
				59874	34.4								
D3285-1  Cap		Manufactured	No			110	Each	105.0000	1	1			
				<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>							
				LG002	105								
				52511	58								
				52647	47								
D3282-041  Float Web (206L/407)		Manufactured	No			150	Each	1.0000	1	1			
				<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>							
				LG	1								
				66363	1								

B69714

11-8-16

11-7-29

8/21/08/08

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Thursday, June 09, 2011 7:58:31 AM

Page 2

Work Order ID: 70469

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 6/9/2011

Required Date: 6/20/2011

Start Qty: 1.00

Required Qty: 1.00

D2649 Manufactured No 190 Each 245.0000 12 12



Cross Bolt Spacer



<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
LG	233	
68224	40	
70394	193	
LG001	12	
65317	1	
68507	11	

D3275-1 Manufactured No 190 Each 214.0000 12 12



Crossbolt Spacer



<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
LG	34	
67767	34	
LG002	180	
66930	108	
68946	72	

CR3212-4-03 Purchased No 250 Each 1,232.000 2 2



Cherry Rivet



<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP-B	2	
110139	2	
ST311	1230	
114859	1230	

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Shop Packet Print

Page 2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Thursday, June 09, 2011 7:58:31 AM

Page 3

Work Order ID: 70469

Parent Item: D206-642-541


Parent Item Name: Replacement Skidtube

Start Date: 6/9/2011

Required Date: 6/20/2011


Start Qty: 1.00

Required Qty: 1.00

D3415-041 Manufactured No 250 Each 62.0000 1 1

Nut Plate


<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

ST053	62	
33842	18	
67605	44	

CCR264SS3-3 Purchased No 250 Each 585.0000 2 2

Cherry Rivet


<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

FP-B	2	
113973	2	
ST311	583	
117086	83	
117849	500	

ALS4-1032-130 Purchased No 250 Each 1,722.000 78 78

Insert

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

ST281	8	
117331	8	
ST282	1714	
117717	1714	

D3536-15 Manufactured No 270 Each 17.0000 1 1

Gasket

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

FP011	17	
66559	17	

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Page 3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Thursday, June 09, 2011 7:58:32 AM

Page 4

Work Order ID: 70469



Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 6/9/2011

Required Date: 6/20/2011

Start Qty: 1.00

Required Qty: 1.00

D3536-23	Manufactured	No	270	Each	15.0000	1	1

Gasket

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP011	15	
43406	1	
66560	14	

D3536-35	Manufactured	No	270	Each	29.0000	1	1

Gasket

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP012	29	
67599	3	
69755	26	

D3536-39	Manufactured	No	270	Each	35.0000	1	1

Gasket

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP015	35	
66241	9	
69760	26	

D3535-15	Manufactured	No	270	Each	27.0000	1	1

Wearshoe

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP018	27	
66558	7	
68358	6	
69931	14	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Thursday, June 09, 2011 7:58:32 AM

Page 5

Work Order ID: 70469

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 6/9/2011

Required Date: 6/20/2011

Start Qty: 1.00

Required Qty: 1.00

D3535-35 Manufactured No 270 Each 32.0000 1 1



Wearshoe



<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

FP018	12	
65926	1	
67598	1	
68348	10	
ST	20	
69756	20	

D3535-39 Manufactured No 270 Each 19.0000 1 1



Wearshoe



<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

FP018	19	
64076	6	
69759	13	

D3535-23 Manufactured No 270 Each 22.0000 1 1



Wearshoe



<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

FP021	22	
66236	-1	
67594	10	
68342	13	

D3537-3 Manufactured No 270 Each 1.0000 1 1



Wearpad



<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

FP017	1	
35697	1	

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Page 5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 6

Work Order ID: 70469

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 6/9/2011

Required Date: 6/20/2011

Start Qty: 1.00

Required Qty: 1.00

D3537-1 Manufactured No 270 Each 60.0000 9 9



Wearpad



Location

Loc Qty

Loc Code

FP017

60

69817

60

AN960C10L NAS1149C0332 Purchased No

270 Each 0.0000 80 80

R



washer

AN960C416 NAS1149C0463 Purchased No

270 Each 0.0000 1 1

R



washer

D3672-1 Manufactured No 270 Each 1,178.000 2 2



Phenolic Washer

Location

Loc Qty

Loc Code

ST074

1152

64177

652

66821

500

ST077

26

52505

26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Thursday, June 09, 2011 7:58:33 AM

Page 7

Work Order ID: 70469



Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 6/9/2011

Required Date: 6/20/2011

Start Qty: 1.00

Required Qty: 1.00

AN3C4A Purchased No 270 Each 2,015.000 80 80



BOLT

Location

Loc Qty

Loc Code

ST350

2015

117094

513

117313

2

117688

800

117795

500

117872

200

AN4C5A Purchased No 270 Each 521.0000 1 1



BOLT

Location

Loc Qty

Loc Code

FP-B

110

112243

110

ST345

411

112243

411

D2646 Manufactured No 270 Each 25.0000 1 1



Aft Cap

Location

Loc Qty

Loc Code

FP006

24

62678

24

FP-4

1

69019

1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Thursday, June 09, 2011 7:58:33 AM

Page 8

Work Order ID: 70469



Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 6/9/2011

Required Date: 6/20/2011

Start Qty: 1.00

Required Qty: 1.00

D3413-1

Manufactured No

270

Each

25.0000

1

1



Ring

Location

Loc Qty

Loc Code

ST420

19

62961

8

66387

11

ST473

6

66945

6

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DESIGN CP	DRAWN BY PH	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3274	REV. D SHEET 1 OF 4
DATE 06.12.19		TITLE SKIDTUBE ASSEMBLY	SCALE NTS
A	04.03.15	NEW ISSUE	
B	04.08.09	MOVE SADDLE HOLE: 42.14 WAS 42.76	
C	05.03.16	ADD -043; NEW INSERTS	
D	06.12.19	NEW INSERTS, SS WEARSHOE + GASKET	

RELEASED

07.02.12 *[Signature]*

DEO ATTACHED

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ENGINEERING

UNCONTROLLED COPY

SUBJECT TO AMENDMENT

WITHOUT NOTICE

WORK ORDER

NO. *76416-9*

DP11-06-9

Qty -041	Qty -043	Part Number	Description
X		D3274-041	SKIDTUBE ASSEMBLY
	X	D3274-043	SKIDTUBE ASSEMBLY
1	1	D2600-1-240	EXTRUSION
1	1	D2646	AFT CAP
12	12	D2649	CROSS BOLT SPACER
12	37	D3275-1	CROSS BOLT SPACER
1	1	D3282-041	FLOAT WEB
1	1	D3285-1	CAP
1	1	D3413-1	RING
1	1	D3415-041	NUT PLATE
1	1	D3535-15	WEARSHOE
1	1	D3535-23	WEARSHOE
1	1	D3535-35	WEARSHOE
1	1	D3535-39	WEARSHOE
1	1	D3536-15	GASKET
1	1	D3536-23	GASKET
1	1	D3536-35	GASKET
1	1	D3536-39	GASKET
9	9	D3537-1	WEARPAD
1	1	D3537-3	WEARPAD
78	78	ALS7-1032-130	INSERT (or AKS4-1032-130, ALS4-1032-130, AELS-1032-130)
80	80	AN3C4A	BOLT
1	1	AN4C5A	BOLT
1	1	AN960C416	WASHER
80	80	AN960C10L	WASHER
2	2	CCR264SS3-3	RIVET
2	2	CR3212-4-03	RIVET
2	2	NAS1515H3L	WASHER

GENERAL NOTES:

1. TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
2. DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 7 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
3. ALL HOLES DRILLED ON CENTERLINES.
4. BOND D3282-041 FLOAT WEB INTO D3274-1/-3 OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015. ENSURE HOLES LINE-UP.
5. WELDING TO BE DONE PER DART QSI 004.
6. FINISH: - ACID ETCH, ALODINE ASSEMBLY PER DART QSI 005 4.1
- POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
7. DRILL Ø0.297 HOLES FOR ALS7-1032-130 INSERTS USING DT3274-1T2 BEFORE FINISH. INSTALL ALS7-1032-130 INSERTS AFTER FINISH. SEAL WEARSHOE BOLTS WITH SIKAFLEX -241/-291.
8. SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

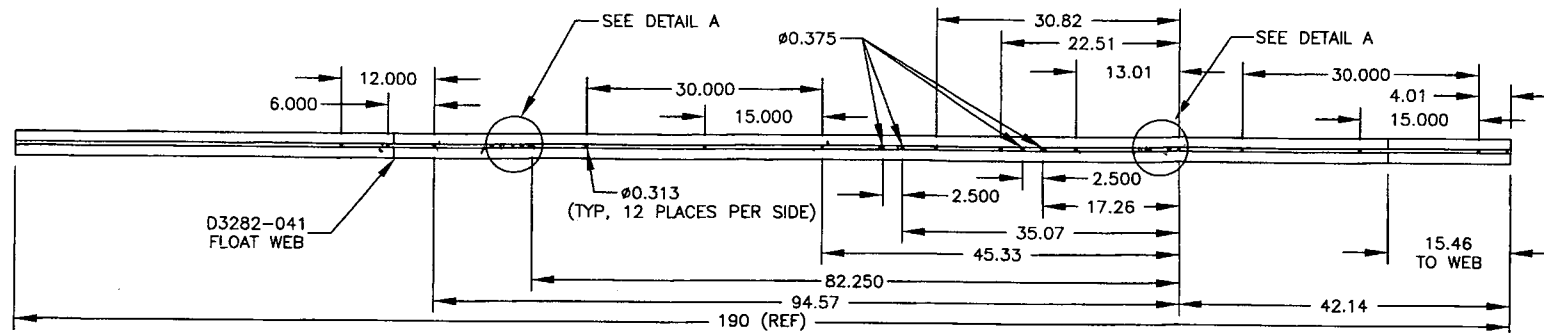
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

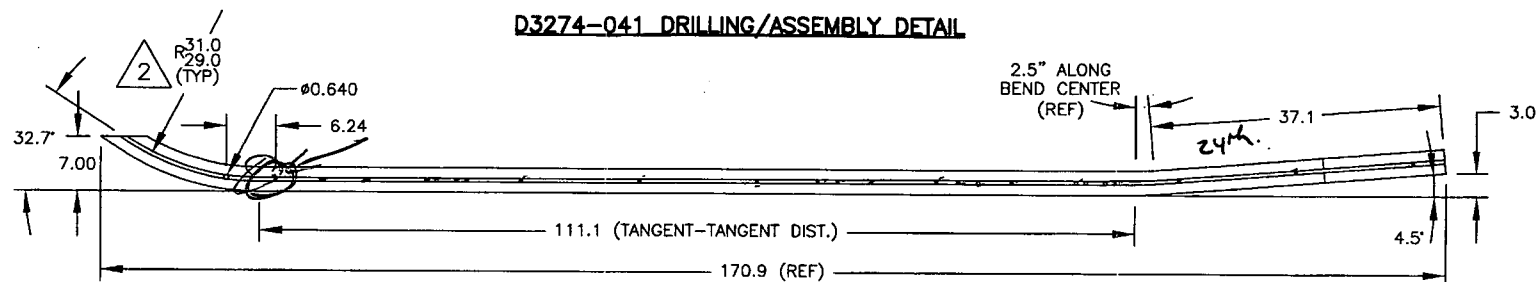
NOTE: Date & initial all entries

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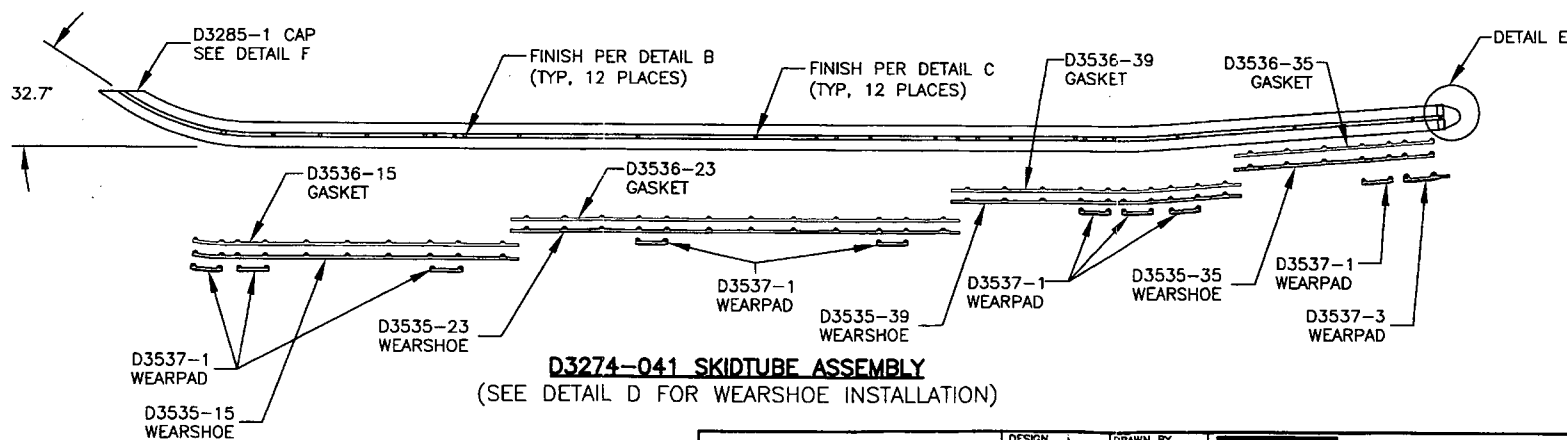
W1070469



D3274-041 DRILLING/ASSEMBLY DETAIL



D3274-041 BEND/DRILLING DETAIL



D3274-041 SKIDTUBE ASSEMBLY
(SEE DETAIL D FOR WEARSHOE INSTALLATION)

RELEASED

07.02.12

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DESIGN	CP	DRAWN BY	PH	DART DART AEROSPACE USA, INC. PORT HADLOCK, WA
CHECKED	#	APPROVED	#	DRAWING NO. D3274
DATE	06.12.19	TITLE	SKIDTUBE ASSEMBLY	REV. D SHEET 2 OF 4 SCALE 1:15

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

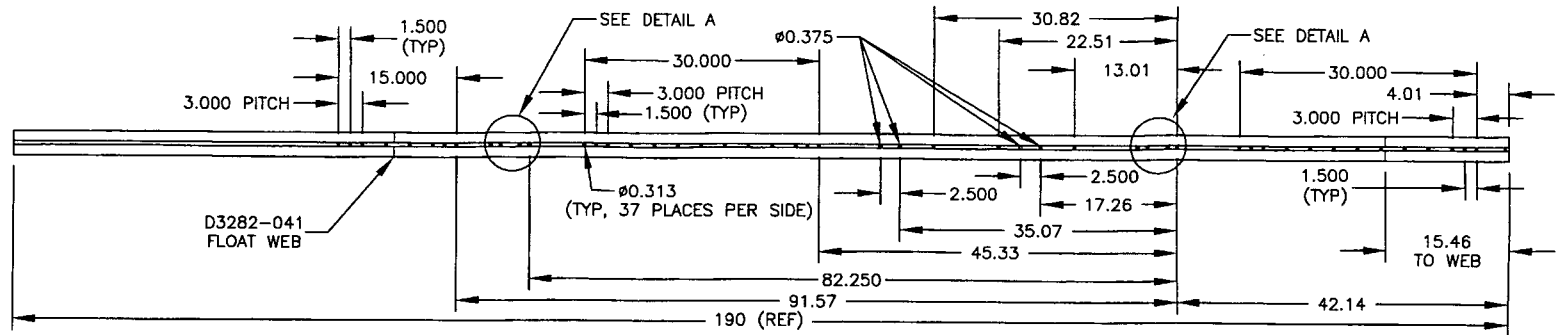
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

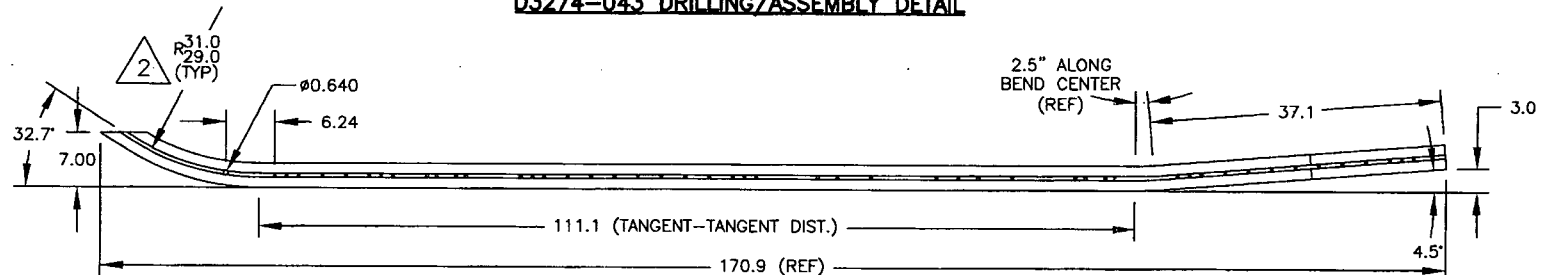
NOTE: Date & initial all entries

u/o 70469

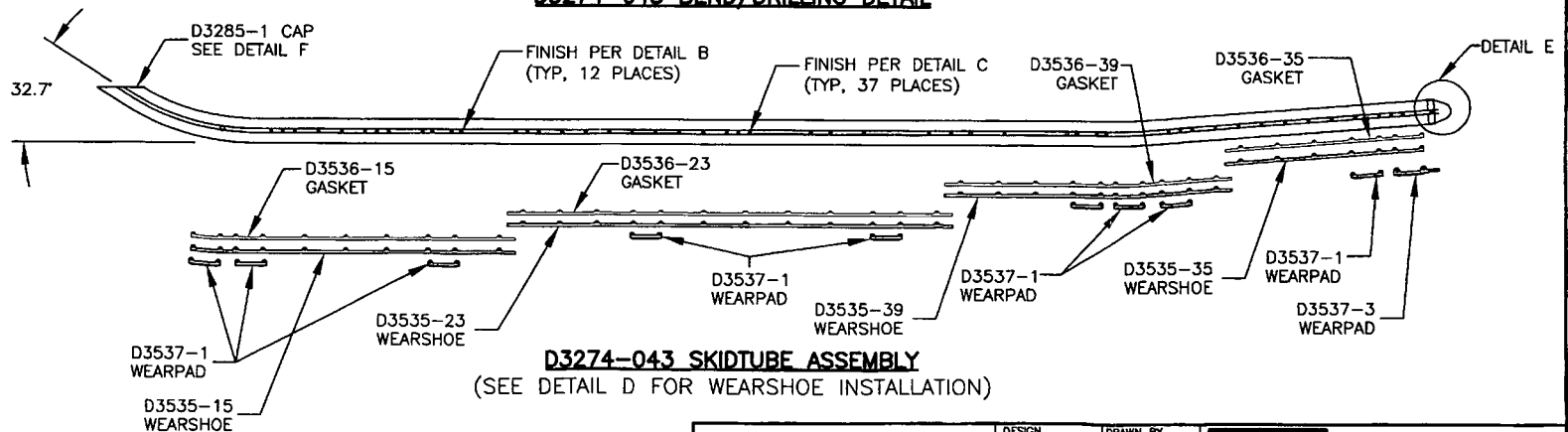
DEO ATTACHED



D3274-043 DRILLING/ASSEMBLY DETAIL



D3274-043 BEND/DRILLING DETAIL



D3274-043 SKIDTUBE ASSEMBLY
(SEE DETAIL D FOR WEARSHOE INSTALLATION)

RELEASED

07.02.12

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CHECKED	APPROVED	DATE	DRAWING NO.	REV. D
#	#	06.12.19	D3274	SHEET 3 OF 4
			TITLE	SCALE
			SKIDTUBE ASSEMBLY	1:15

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

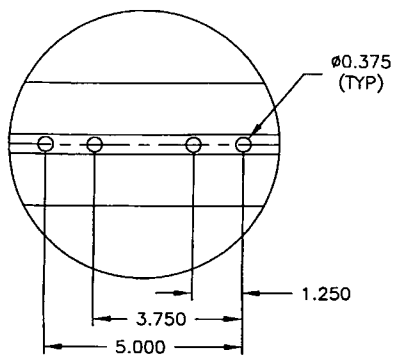
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

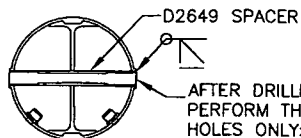
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DETAIL A: DRILL DETAIL

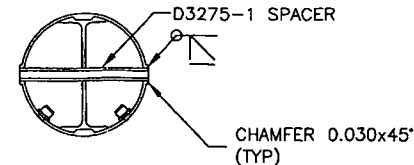


DETAIL B FOR 0.375 HOLES ONLY



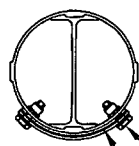
- AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR 0.375
HOLES ONLY:
1. CHAMFER HOLE 0.030x45°
 2. INSERT D2649 SPACER
 3. WELD INTO PLACE AND GRIND FLUSH
 4. C'BORE TO 0.313x0.75 DEEP

DETAIL C FOR 0.313 HOLES ONLY



u1090469

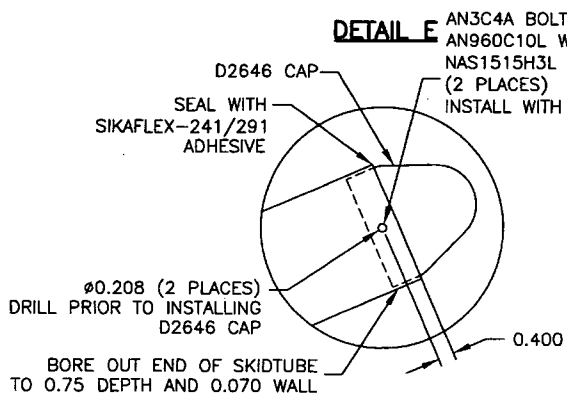
DETAIL D



- ALS7-1032-130 INSERT (1)
AN3C4A BOLT (1)
AN960C10L WASHER (1)
(78 PLACES)

GASKET/WEARSHOE/WEARPAD (REF)

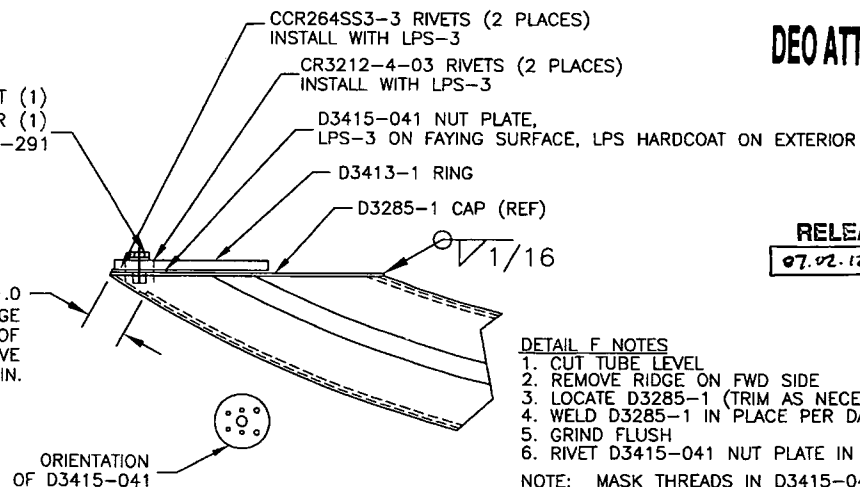
DETAIL E



- AN4C5A BOLT (1)
AN960C416 WASHER (1)
INSTALL WITH SIKAFLEX-241/-291

1.0
REMOVE RIDGE
ON INSIDE OF
SKIDTUBE LEAVE
0.070 MIN.

DETAIL F: END FINISHING DETAIL



DEO ATTACHED

RELEASED

07.02.12

DETAIL F NOTES

1. CUT TUBE LEVEL
 2. REMOVE RIDGE ON FWD SIDE
 3. LOCATE D3285-1 (TRIM AS NECESSARY)
 4. WELD D3285-1 IN PLACE PER DART QSI 004
 5. GRIND FLUSH
 6. RIVET D3415-041 NUT PLATE IN PLACE
- NOTE: MASK THREADS IN D3415-041
PRIOR TO FINISH

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DESIGN	CP	DRAWN BY	PH	DART DART AEROSPACE USA, INC.
CHECKED	#	APPROVED	#	PORT HADLOCK, VA
DATE	06.12.19	DRAWING NO.	D3274	REV. D
		TITLE	SKIDTUBE ASSEMBLY	SHEET 4 OF 4
				SCALE 1:3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

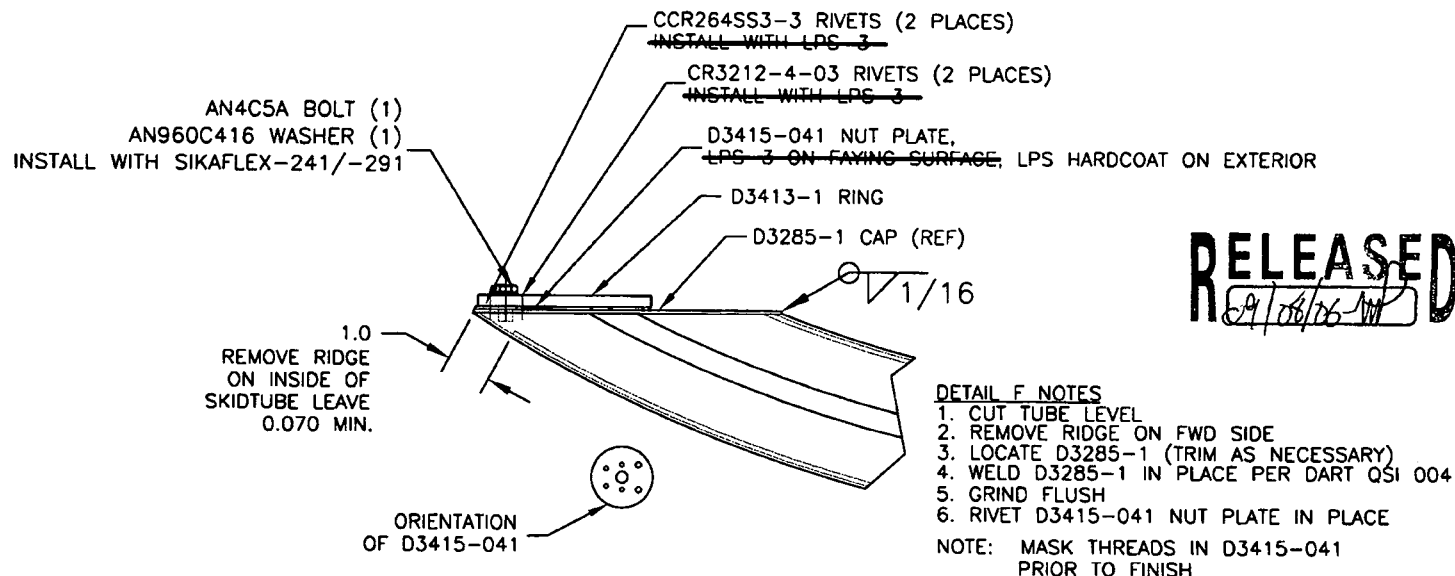
DRAWING NO. D3274	TITLE SKIDTUBE ASSEMBLY	REV. D	DART AEROSPACE USA, INC ENGINEERING ORDER		D.E.O. NO. D3274-D-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>CP</i>	CHECKED <i>[Signature]</i>	MFG. APPR. <i>[Signature]</i>	APPROVED <i>[Signature]</i>		DE APPR. <i>[Signature]</i>		
DATE 09.06.17	DATE 09.06.23	DATE 09/06/23	DATE 09/06/23		DATE 09.06.23		

LPS-3 IS NO LONGER USED DURING ASSEMBLY OF SKIDTUBE.

AMEND NOTE 8: ~~"SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES 'LPS 3' AFTER FINISH AND INSTALLATION OF INSERTS.~~
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES 'LPS PROCYON' AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF
POWDER COATING WITH MEK DEGREASER."

AMEND DETAIL F AS SHOWN:

DETAIL F: END FINISHING DETAIL



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries